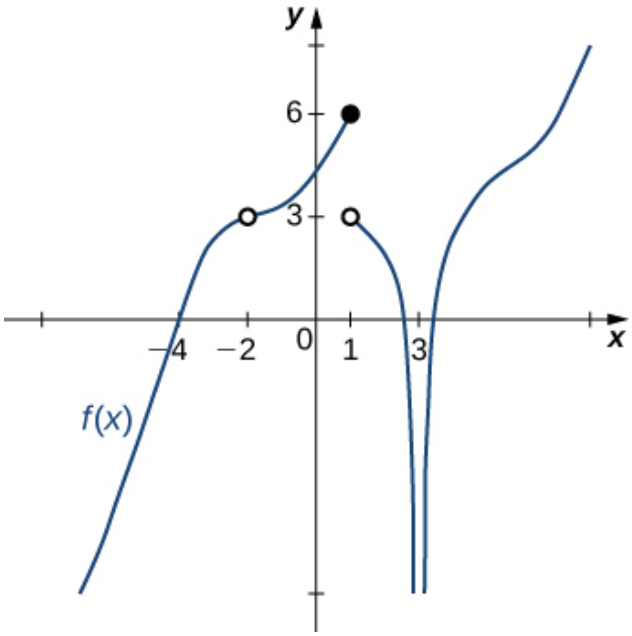
1. For the graph below, find the value(s) a that makes the statement true: $\lim_{x \to a} f(x) = 3$.



A. -2

B. 1

C. $-\infty$

D. Multiple a make the statement true.

E. No a make the statement true.

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2. Evaluate the limit below, if possible.

$$\lim_{x \to 9} \frac{\sqrt{7x - 14} - 7}{2x - 18}$$

A. 1.323

B. ∞

C. 0.036

D. 0.071

E. None of the above

3. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to 1^+} \frac{1}{(x-1)^8} + 4$$

A. $-\infty$

B. $f(1)$

C. ∞

D. The limit does not exist

E. None of the above

4. To estimate the one-sided limit of the function below as x approaches 8 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{8}{x} - 1}{x - 8}$$

A. $\{7.9000, 7.9900, 8.0100, 8.1000\}$

B. $\{8.1000, 8.0100, 8.0010, 8.0001\}$

C. $\{7.9000, 7.9900, 7.9990, 7.9999\}$

D. $\{8.0000, 7.9000, 7.9900, 7.9990\}$

E. $\{8.0000, 8.1000, 8.0100, 8.0010\}$

5. Based on the information below, which of the following statements is always true?

As x approaches 9, $f(x)$ approaches 7.206.

A. $f(x) = 9$ when x is close to 7.206

B. $f(x) = 7.206$ when x is close to 9

C. $f(x)$ is close to or exactly 9 when x is close to 7.206

D. $f(x)$ is close to or exactly 7.206 when x is close to 9

E. None of the above are always true.

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6. Based on the information below, which of the following statements is always true?

$$As\ x\ approaches\ 9,\ f(x)\ approaches\ 8.194.$$

A. $f(8)$ is close to or exactly 9

B. $f(9)$ is close to or exactly 8

C. $f(9) = 8$

D. $f(8) = 9$

E. None of the above are always true.

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7. To estimate the one-sided limit of the function below as x approaches 3 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{3}{x} - 1}{x - 3}$$

A. $\{2.9000, 2.9900, 3.0100, 3.1000\}$

B. $\{3.0000, 2.9000, 2.9900, 2.9990\}$

C. $\{3.1000, 3.0100, 3.0010, 3.0001\}$

D. $\{3.0000, 3.1000, 3.0100, 3.0010\}$

E. $\{2.9000, 2.9900, 2.9990, 2.9999\}$

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8. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to -1^-} \frac{8}{(x+1)^5} + 1$$

A. ∞

B. $f(-1)$

C. $-\infty$

D. The limit does not exist

E. None of the above

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9. Evaluate the limit below, if possible.

$$\lim_{x\to 8} \frac{\sqrt{3x-8}-4}{6x-48}$$

A. ∞

B. 0.021

C. 0.289

D. 0.125

E. None of the above

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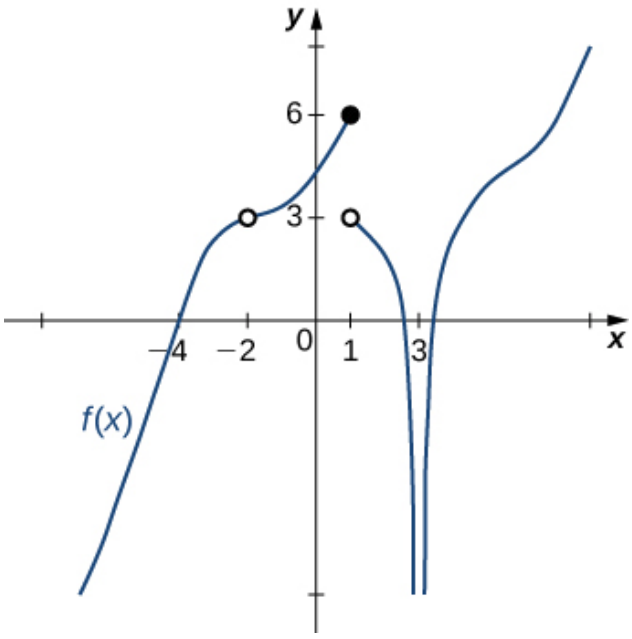
10. For the graph below, find the value(s) a that makes the statement true: $\lim_{x\to a} f(x) = 0$.



A. 3

B. -4

C. 0

D. Multiple a make the statement true.

E. No a make the statement true.
